# Activity sheet 7: Interpreting data to determine fitness levels

*Learning aim A: Training to improve fitness for sport and activity*

*Learning aim A1: Interpreting fitness data in relation to sport and activity*

A range of different people took part in different fitness tests. Their results are shown.

1. Raj is an 18-year-old male and takes part in the one-minute sit-up test. His result is 44.

Table 7.1 shows the normative data tables for the one-minute sit-up test.

Table 7.1 One-minute sit-up test results

|  |  |  |
| --- | --- | --- |
| Rating | Males (no of reps) | Females (no of reps) |
| Excellent | 49–59 | 42–54 |
| Good | 43–48 | 36–41 |
| Above average | 39–42 | 32–35 |
| Average | 35–38 | 28–31 |
| Below average | 31–34 | 24–27 |
| Poor | 25–30 | 18–23 |
| Very poor | 11–24 | 3–17 |

1. Using Table 7.1, identify the category Raj is in for the one-minute sit-up test.

1. State the component of fitness tested by the one-minute sit-up test

1. Tamara is a 25-year-old female and takes part in the 12-minute Cooper run.   
   Her result is 1900 m.

Tables 7.2 and 7.3 shows the normative data tables for the 12-minute Cooper run.

Table 7.2 Male athletes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Age | Excellent | Above average | Average | Below average | Poor |
| 13–14 | >2700 m | 2400–2700 m | 2200–2399 m | 2100–2199 m | <2100 m |
| 15–16 | >2800 m | 2500–2800 m | 2300–2499 m | 2200–2299 m | <2200 m |
| 17–19 | >3000 m | 2700–3000 m | 2500–2699 m | 2300–2499 m | <2300 m |
| 20–29 | >2800 m | 2400–2800 m | 2200–2399 m | 1600–2199 m | <1600 m |
| 30–39 | >2700 m | 2300–2700 m | 1900–2299 m | 1500–1999 m | <1500 m |
| 40–49 | >2500 m | 2100–2500 m | 1700–2099 m | 1400–1699 m | <1400 m |
| >50 | >2400 m | 2000–2400 m | 1600–1999 m | 1300–1599 m | <1300 m |

Table 7.3 Female athletes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Age | Excellent | Above average | Average | Below average | Poor |
| 13–14 | >2000 m | 1900–2000 m | 1600–1899 m | 1500–1599 m | <1500 m |
| 15–16 | >2100 m | 2000–2100 m | 1700–1999 m | 1600–1699 m | <1600 m |
| 17–20 | >2300 m | 2100–2300 m | 1800–2099 m | 1700–1799 m | <1700 m |
| 20–29 | >2700 m | 2200–2700 m | 1800–2199 m | 1500–1799 m | <1500 m |
| 30–39 | >2500 m | 2000–2500 m | 1700–1999 m | 1400–1699 m | <1400 m |
| 40–49 | >2300 m | 1900–2300 m | 1500–1899 m | 1200–1499 m | <1200 m |
| >50 | >2200 m | 1700–2200 m | 1400–1699 m | 1100–1399 m | <1100 m |

(a) Using the correct table identify the category Tamara is in for the 12-minute Cooper run.

(b) State the component of fitness tested by the 12-minute Cooper run.

1. Finlay is a 16-year-old male and takes part in the hand grip dynamometer test.   
   His result is 37 kgw.

Table 7.4 shows the normative data tables for the hand grip dynamometer test.

Table 7.4 Grip strength results

|  |  |  |
| --- | --- | --- |
| Rating | Males aged 15–19 years (kgw) | Females aged 15–19 years (kgw) |
| Excellent | >52 | >32 |
| Good | 47–51 | 28–31 |
| Average | 44–46 | 25–27 |
| Below average | 39–43 | 20–24 |
| Poor | <39 | <20 |

(a) Using Table 7.4, identify the category Finlay is in for the hand grip dynamometer test.

(b) State the component of fitness tested by the hand grip dynamometer test.

1. Priya is a 20-year-old female and takes part in the sit and reach test. Her result is 23 cm.

Table 7.5 shows the normative data tables for the sit and reach test.

Table 7.5 Sit and reach test results

|  |  |  |
| --- | --- | --- |
| Rating | Males (cm) | Females (cm) |
| Excellent | + 17 – + 27 | + 21 – + 30 |
| Good | + 6 – + 16 | + 11 – + 20 |
| Average | 0 – + 5 | + 1 – + 10 |
| Fair | - 8 –- - 1 | - 7 – 0 |
| Poor | - 20 –- - 9 | - 15 –- - 8 |
| Very poor | <- 20 | <- 15 |

(a) Using Table 7.5, identify the category Priya is in for the sit and reach test.

(b) State the component of fitness tested by the sit and reach test.

1. Malik is a 15-year-old male and takes part in the Sergeant jump test. His result is 30 cm.

Table 7.6 shows the normative data tables for the Sergeant jump test.

Table 7.6 Interpretation of vertical jump test results for men and women aged 16-19

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gender | Excellent | Above average | Average | Below average | Poor |
| Male | >65 cm | 50–65 cm | 40–49 cm | 30–39 cm | <30 cm |
| Female | >58 cm | 47–58 cm | 36–46 cm | 26–35 cm | <26 cm |

(a) Using Table 7.6, identify the category Malik is in for the Sergeant jump test.

(b) State the component of fitness tested by the Sergeant jump test.

1. Curtis is a 50-year-old male and takes part in the 30 m sprint test. His result is 4.5 seconds.

Table 7.7 shows the normative data tables for the 30 m sprint test.

Table 7.7 Normative data for the 30 m sprint test

|  |  |  |
| --- | --- | --- |
| 30-metre sprint rating | Male | Female |
| Excellent | <4.0 s | <4.5 s |
| Above average | 4.2–4.0 s | 4.6–4.5 s |
| Average | 4.4–4.3 s | 4.8–4.7 s |
| Below average | 4.6–4.5 s | 5.0–4.9 s |
| Poor | <4.6 s | <5.0 s |

Source: Davis B et al: Physical Education and the Study of Sport; 2000

(a) Using Table 7.7, identify the category Curtis is in for the 30 m sprint test.

(b) State the component of fitness tested by the 30 m sprint test.

## Fitness test score and its impact on sport and activity

Different components of fitness are required to perform well in different sports. For some sports, having high levels of more than one component of fitness are necessary. However, for other sports, there can be just one main component of fitness that determines how successful a person performing that sport will be.

1. Kamal takes part in cross-country running. He gets an excellent category for his 12-minute Cooper run test.

(a) Identify the component of fitness tested by the 12-minute Cooper run test.

(b) Explain the impact of scoring highly in this test on Kamal’s cross-country running performance.

1. Phoebe takes part in volleyball. She gets a poor score for her Sergeant jump test.

(a) Identify the component of fitness tested by the Sergeant jump test.

(b) Explain the impact of scoring poorly in this test on Phoebe’s volleyball performance.

1. Jose is a striker in football. He gets a poor score for the 30 m sprint test.

(a) Identify the component of fitness tested by the 30 m sprint test.

(b) Explain the impact of scoring poorly in this test on Jose’s football performance.